AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-78. (canceled)

79. (Previously presented) The recognition molecule according to claim 89 wherein the antibody framework sequence comprises

a) FRH1, FRH2, FRH3 and FRH4 (SEQ ID NO: 82) comprising the following amino acid sequences, the amino acid position corresponding to the numbering according to Kabat:

for FRH1 in position (SEQ ID NO: 84)	1	E
	2	V
	3	K
	4	L
	5	V
	6	E
	7	S
	8	G
	9	G
	10	G
	11	L
	12	V
	13	Q
	14	P
	15	G
	16	G
	17	S
	18	M
	19	K

	20	L
	21	S
	22	C
	23	A or V
	24	A, V, S or T
	25	S
	26	G
	27	Y, F, S or D
	28	T
	29	F, L or I
	30	S
for FRH2 in position (SEQ ID NO: 85)	36	W
	37	V
	38	R
	39	Q
	40	S
	41	P
	42	E
	43	K
	44	G
	45	L
	46	E
	47	W
	48	V
	49	A
for FRH3 in position (SEQ ID NO: 86)	66	R
	67	F
	68	T
	69	I
	70	S
	71	R

	72	D
	73	D or V
	74	S
	75	K
	76	S
	77	S
	78	V
	79	Y or S
	80	L
	81	Q
	82	M
	82a	N
	82b	N
	82c	L
	83	R
	84	A or V
	85	E
	86	D
	87	T
	88	G
	89	I
	90	Y
	91	Y
	92	C
	93	T
	94	R, G, N, K or S
for FRH4 in position (SEQ ID NO: 87)	103	W
	104	G
	105	Q
	106	G
	107	T

108	T
109	L
110	T
111	V
112	S
113	S or A

and

b) FRL1, FRL2, FRL3 and FRL4 (SEQ ID NO: 83) comprising the following amino acid sequences, the amino acid position corresponding to the numbering according to Kabat:

for FRL1 in position (SEQ ID NO: 88)		
	1	D
	2	I, V or L
	3	V
	4	M or L
	5	T
	6	Q
	7	T or A
	8	P or A
	9	L or F
	10	S
	11	L or N
	12	P
	13	V
	14	S or T
	15	L
	16	G
	17	D or T
	18	Q or S
	19	A
	20	S
	21	I
	22	S

	23	C
for FRL2 in position (SEQ ID NO: 89)	35	W
	36	Y
	37	L
	38	Q
	39	K
	40	P
	41	G
	42	Q or L
	43	S
	44	P
	45	K or Q
	46	L
	47	L
	48	I or V
	49	Y
for FRL3 in position (SEQ ID NO: 90)	57	G
	58	V
	59	P
	60	D
	61	R
	62	F
	63	S
	64	G or S
	65	S
	66	G
	67	S
	68	G
	69	T
	70	D
	71	F

	72	T
	73	L
	74	K or R
	75	I
	76	S
	77	R
	78	V
	79	E
	80	A
	81	E
	82	D
	83	L or V
	84	G
	85	V
	86	Y
	87	Y
	88	C
for FRL4 in position (SEQ ID NO: 91)	98	F
	99	G
	100	G or D
	101	G
	102	T
	103	K
	104	L
	105	E
	106	I or L
	106a	K
	107	R
	108	A.

80. (Previously presented) The recognition molecule according to claim 95 which comprises

SEQ ID NO: 33 and SEQ ID NO: 35, or a humanized variant thereof.

81. (Previously Presented) The recognition molecule according to claim 90 which comprises a single-chain antibody fragment, a multibody, a Fab fragment, a fusion protein of an antibody fragment with a peptide or a protein or an immunoglobulin molecule of the IgG, IgM, IgA, IgE, IgD isotype or a subclass thereof.

82. (Previously presented) A construct comprising the recognition molecule of claim 81 which is fused, chemically coupled, covalently or non-covalently associated with
(i) an immunoglobulin domain of various species,
(ii) an enzyme molecule,
(iii) an interaction domain,
(iv) a domain for stabilization,
(v) a signal sequence,
(vi) a fluorescent dye,
(vii) a toxin,
(viii) a catalytic antibody,
(ix) an antibody molecule or a fragment with different specificity,
(x) a cytolytic component,
(xi) an immunomodulator,
(xii) an immunoeffector,
(xiii) an MHC class I or class II antigen,
(xiv) a chelating agent for radioactive labeling,
(xv) a radioisotope,
(xvi) a liposome,
(xvii) a transmembrane domain,
(xviii) a virus or
(xix) a cell.

83. (Previously presented) A method for the production of the recognition molecule according to claim 87, comprising:

(i) incorporating one or more nucleic acid molecules encoding the amino acid sequence of at least one recognition molecule in a virus or in a host cell;

(ii) culturing the host cells or viruses under suitable conditions; and

(iii) obtaining the recognition molecule from the effector cell bearing the recognition molecule or the virus, wherein said recognition molecule specifically binds to the glycosylated MUC 1 tumor epitope.

84. (Canceled)

85. (Previously presented) The method according to claim 93, wherein the recognition molecule comprises an immunoglobulin IgG molecule or a fragment thereof.

86. (Previously presented) The method according to claim 93, wherein the recognition molecules comprise a multibody.

87. (Previously presented) A recombinant recognition molecule which comprises the amino acid sequences set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9 and SEQ ID NO:11 and which specifically binds to a glycosylated MUC1 tumor epitope.

88. (Currently Amended) A recombinant recognition molecule comprising the amino acid sequences set forth in (a)-(f), wherein

(a) comprises SEQ ID NO. 1 or an equivalent canonical structure variant thereof wherein one or two amino acids are replaced by an amino acid with analogous physicochemical properties;

(b) comprises SEQ ID NO. 3 or an equivalent canonical structure variant thereof wherein one or two amino acids are replaced by an amino acid with analogous physicochemical properties;

(c) comprises SEQ ID NO. 5;

(d) comprises SEQ ID NO. 7 or an equivalent canonical structure variant thereof wherein one or two amino acids are replaced by an amino acid with analogous physicochemical properties;

(e) comprises SEQ ID NO. 9; and

(f) comprises SEQ ID NO. 11 or an equivalent canonical structure variant thereof wherein one or two amino acids are replaced by an amino acid with analogous physicochemical properties;

and wherein the recognition molecule specifically binds to a glycosylated MUC1 tumor epitope.

89. (Previously presented) The recognition molecule according to claim 87 further comprising one or more antibody framework sequences which separate, enclose and/or flank said amino acid sequences.

90. (Currently Amended) The recognition molecule according to claim 87, which comprises ~~SEQ ID NO:33~~ SEQ ID NO:32 and ~~SEQ ID NO: 35~~ SEQ ID NO:34, or a humanized variant thereof.

91. (Currently Amended) The recognition molecule according to claim 87, which comprises

(i) at least one sequence set forth in SEQ ID NOs 36 to 47,

(ii) SEQ ID NO: 60[[,]] and SEQ ID NO: 62,

(iii) SEQ ID NO: 64[[,]] and SEQ ID NO: 66, or

(iv) SEQ ID NO:66 and SEQ ID NO: 68,

or a humanized variant thereof.

92. (Previously presented) A composition comprising

(i) at least one recognition molecule according to claim 87; and/or

(ii) at least one construct comprising the recognition molecule of claim 87 which is fused, chemically coupled, or covalently or non-covalently associated with

(i) an immunoglobulin domain of various species,

(ii) an enzyme molecule,

(iii) an interaction domain,

(iv) a domain for stabilization,

(v) a signal sequence,

(vi) a fluorescent dye,

(vii) a toxin,

(viii) a catalytic antibody,

(ix) an antibody molecule or a fragment with different specificity,

(x) a cytolytic component,

(xi) an immunomodulator,

(xii) an immunoeffector,

(xiii) an MHC class I or class II antigen,

(xiv) a chelating agent for radioactive labeling,

(xv) a radioisotope,

(xvi) a liposome,

(xvii) a transmembrane domain,

(xviii) a virus or

(xix) a cell;

and/or

(iii) at least one nucleic acid molecule which encodes the recognition molecule of claim 87;

together with a pharmaceutically tolerable carrier and/or adjuvant.

93. (Previously presented) A method for diagnosing, reducing, treating, following-up and/or after-caring tumor diseases and/or metastases in a subject in need thereof comprising administering to said subject a recognition molecule according to claim 87.

94. (Previously presented) An *in vitro* method for the diagnosis of a tumor comprising detecting a glycosylated MUC1 tumor epitope with at least one recognition molecule according to claim 87.

95. (Currently Amended) A recombinant recognition molecule comprising an amino acid sequence which contains the amino acid sequences of ~~SEQ ID NOs 2, 4, 6, 8, 10 and 12,~~ SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10 and SEQ ID NO:12 and which specifically binds to a glycosylated MUC1 tumor epitope.

96. (Currently Amended) A recombinant recognition molecule comprising the amino acid sequences set forth in (a)-(f), wherein

(a) comprises SEQ ID NO. 2 or an equivalent canonical structure variant thereof wherein one or two amino acids are replaced by an amino acid with analogous physicochemical properties;
(b) comprises SEQ ID NO. 4 or an equivalent canonical structure variant thereof wherein one or two amino acids are replaced by an amino acid with analogous physicochemical properties;
(c) comprises SEQ ID NO. 6;
(d) comprises SEQ ID NO. 8 or an equivalent canonical structure variant thereof wherein one or two amino acids are replaced by an amino acid with analogous physicochemical properties;
(e) comprises SEQ ID NO. 10; and
(f) comprises SEQ ID NO. [[11]] 12 or an equivalent canonical structure variant thereof wherein one or two amino acids are replaced by an amino acid with analogous physicochemical properties;

and wherein the recognition molecule specifically binds to a glycosylated MUC1 tumor epitope.

97. (Previously presented) The recognition molecule according to claim 95 further comprising one or more antibody framework sequences which separate, enclose and/or flank said amino acid sequences.

98. (Previously Presented) The recognition molecule according to claim 97, wherein the antibody framework sequence comprises

a) FRH1, FRH2, FRH3 and FRH4 (SEQ ID NO: 82) comprising the following amino acid sequences, the amino acid position corresponding to the numbering according to Kabat:

for FRH1 in position (SEQ ID NO: 84)	1	E
	2	V
	3	K
	4	L
	5	V
	6	E
	7	S
	8	G
	9	G

	10	G
	11	L
	12	V
	13	Q
	14	P
	15	G
	16	G
	17	S
	18	M
	19	K
	20	L
	21	S
	22	C
	23	A or V
	24	A, V, S or T
	25	S
	26	G
	27	Y, F, S or D
	28	T
	29	F, L or I
	30	S
for FRH2 in position (SEQ ID NO: 85)	36	W
	37	V
	38	R
	39	Q
	40	S
	41	P
	42	E
	43	K
	44	G
	45	L

	46	E
	47	W
	48	V
	49	A
for FRH3 in position (SEQ ID NO: 86)	66	R
	67	F
	68	T
	69	I
	70	S
	71	R
	72	D
	73	D or V
	74	S
	75	K
	76	S
	77	S
	78	V
	79	Y or S
	80	L
	81	Q
	82	M
	82a	N
	82b	N
	82c	L
	83	R
	84	A or V
	85	E
	86	D
	87	T
	88	G
	89	I

	90	Y
	91	Y
	92	C
	93	T
	94	R, G, N, K or S
for FRH4 in position (SEQ ID NO: 87)	103	W
	104	G
	105	Q
	106	G
	107	T
	108	T
	109	L
	110	T
	111	V
	112	S
	113	S or A

and

b) FRL1, FRL2, FRL3 and FRL4 (SEQ ID NO: 83) comprising the following amino acid sequences, the amino acid position corresponding to the numbering according to Kabat:

for FRL1 in position (SEQ ID NO: 88)	1	D
	2	I, V or L
	3	V
	4	M or L
	5	T
	6	Q
	7	T or A
	8	P or A
	9	L or F
	10	S
	11	L or N
	12	P

	13	V
	14	S or T
	15	L
	16	G
	17	D or T
	18	Q or S
	19	A
	20	S
	21	I
	22	S
	23	C
for FRL2 in position (SEQ ID NO: 89)	35	W
	36	Y
	37	L
	38	Q
	39	K
	40	P
	41	G
	42	Q or L
	43	S
	44	P
	45	K or Q
	46	L
	47	L
	48	I or V
	49	Y
for FRL3 in position (SEQ ID NO: 90)	57	G
	58	V
	59	P
	60	D
	61	R

	62	F
	63	S
	64	G or S
	65	S
	66	G
	67	S
	68	G
	69	T
	70	D
	71	F
	72	T
	73	L
	74	K or R
	75	I
	76	S
	77	R
	78	V
	79	E
	80	A
	81	E
	82	D
	83	L or V
	84	G
	85	V
	86	Y
	87	Y
	88	C
for FRL4 in position (SEQ ID NO: 91)	98	F
	99	G
	100	G or D
	101	G

102	T
103	K
104	L
105	E
106	I or L
106a	K
107	R
108	A.

99. (Previously presented) The recognition molecule according to claim 80, wherein it comprises a single-chain antibody fragment, a multibody, a Fab fragment, a fusion protein of an antibody fragment with peptides or proteins and/or an immunoglobulin molecule of the IgG, IgM, IgA, IgE, IgD isotype or a subclasses thereof.

100. (Currently Amended) The recognition molecule according to claim 95, which comprises ~~at least one sequence in accordance with SEQ ID Nos. 48 to 59, SEQ ID Nos. 61, 63, 65, 67 or 69~~

(i) at least one sequence set forth in SEQ ID NOs 48 to 59,

(ii) SEQ ID NO:61 and SEQ ID NO:63,

(iii) SEQ ID NO:65 and SEQ ID NO:69, or

(iv) SEQ ID NO:67 and SEQ ID NO:69,

or humanized variants of said sequences.

101. (Previously presented) A construct comprising a recognition molecule according to claim 99 which is fused, chemically coupled, or covalently or non-covalently associated with

(i) an immunoglobulin domain of various species,

(ii) an enzyme molecule,

(iii) an interaction domain,

(iv) a domain for stabilization,

(v) a signal sequence,

(vi) a fluorescent dye,

(vii) a toxin,

(viii) a catalytic antibody,

(ix) an antibody molecule or a fragment with different specificity,

(x) a cytolytic component,

(xi) an immunomodulator,

(xii) an immunoeffector,

(xiii) an MHC class I or class II antigen,

(xiv) a chelating agent for radioactive labeling,

(xv) a radioisotope,

(xvi) a liposome,

(xvii) a transmembrane domain,

(xviii) a virus or

(xix) a cell.

102. (Previously presented) A composition comprising

(i) at least one recognition molecule according to claim 95; and/or

(ii) a construct comprising at least one recognition molecule of claim 95 which is fused, chemically coupled, or covalently or non-covalently associated with

(i) an immunoglobulin domain of various species,

(ii) an enzyme molecule,

(iii) an interaction domain,

(iv) a domain for stabilization,

(v) a signal sequence,

(vi) a fluorescent dye,

(vii) a toxin,

(viii) a catalytic antibody,

(ix) an antibody molecule or a fragment with different specificity,

(x) a cytolytic component,

(xi) an immunomodulator,

(xii) an immunoeffector,

(xiii) an MHC class I or class II antigen,

(xiv) a chelating agent for radioactive labeling,

(xv) a radioisotope,

(xvi) a liposome,

(xvii) a transmembrane domain,

(xviii) a virus or

(xix) a cell;

and/or

(iii) at least one nucleic acid molecule which encodes the recognition molecule of claim 95;

together with a pharmaceutically tolerable carrier and/or adjuvant.

103. (Previously presented) A method for the production of recognition molecules according to claim 95 comprising

(i) incorporating one or more nucleic acid molecules encoding the amino acid sequence of at least one recognition molecule according to claim 95 in a virus or in a host cell;

(ii) culturing the host cells or viruses under suitable conditions; and

(iii) obtaining the recognition molecule from the effector cell bearing the recognition molecule or construct, or the virus, which specifically recognize the glycosylated MUC 1 tumor epitope.

104. (Previously presented) A method for diagnosing, reducing, treating, following-up and/or after-caring tumor diseases and/or metastases in a subject in need thereof comprising administering to said subject a recognition molecule according to claim 95.

105. (Previously presented) The method according to claim 104, wherein the recognition molecule comprises an immunoglobulin IgG molecule or a fragment thereof.

106. (Previously presented) The method according to claim 104, wherein the recognition molecule comprises a multibody.

107. (Previously presented) An *in vitro* method for the diagnosis of a tumor comprising detecting a glycosylated MUC1 tumor epitope with at least one recognition molecule according to claim 95.

108. (Previously presented) A method for the production of the construct according to claim 82 comprising

(i) incorporating one or more nucleic acid molecules encoding the amino acid sequence of at least one construct comprising said recognition molecule in a virus or in a host cell;

(ii) culturing the host cells or viruses under suitable conditions; and

(iii) obtaining the construct, the effector cell bearing the recognition molecule or construct, or the virus, which specifically recognize the glycosylated MUC 1 tumor epitope.

109. (Previously presented) A method for diagnosing, reducing, treating, following-up and/or after-caring tumor diseases and/or metastases in a subject in need thereof comprising administering to said subject a construct according to claim 82.

110. (Previously presented) An *in vitro* method for the diagnosis of a tumor comprising detecting a glycosylated MUC1 tumor epitope with at least one construct according to claim 82.

111. (Previously presented) A method for diagnosing, reducing, treating, following-up and/or after-caring tumor diseases and/or metastases in a subject in need thereof comprising administering to said subject a construct according to claim 92.

112. (Previously presented) An *in vitro* method for the diagnosis of a tumor comprising detecting a glycosylated MUC1 tumor epitope with at least one construct according to claim 92.

113. (Previously presented) The recognition molecule according to claim 87 wherein the glycosylated MUC1 tumor epitope comprises a glycosylated PDTRP (SEQ ID NO: 81) region

within a MUC1 tandem repeat sequence and is glycosylated with GalNAc or Gal-GalNAc on the PDTRP (SEQ ID NO: 81) threonine.

114. (Previously presented) The recognition molecule according to claim 95 wherein the glycosylated MUC1 tumor epitope comprises a glycosylated PDTRP (SEQ ID NO: 81) region within a MUC1 tandem repeat sequence and is glycosylated with GalNAc or Gal-GalNAc on the PDTRP (SEQ ID NO: 81) threonine.

115. (Previously presented) The recognition molecule according to claim 113 wherein the glycosylated MUC1 tumor epitope comprises $A[HGVTSAPDT(GalNAc\alpha)RPAPGSTAPPA]_n$ wherein n=1, 3, or 5 (SEQ ID NO: 73).

116. (Previously presented) The recognition molecule according to claim 114 wherein the glycosylated MUC1 tumor epitope comprises $A[HGVTSAPDT(GalNAc\alpha)RPAPGSTAPPA]_n$ wherein n=1, 3, or 5 (SEQ ID NO: 73).

117-121 (Canceled)

122. (Previously presented) The recognition molecule of claim 88, wherein the equivalent canonical structure variant of SEQ ID NO: 1 comprises SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19, or SEQ ID NO: 20.

123. (Previously presented) The recognition molecule of claim 88, wherein the equivalent canonical structure variant of SEQ ID NO: 3 comprises SEQ ID NO: 21.

124. (Previously presented) The recognition molecule of claim 88, wherein the equivalent canonical structure variant of SEQ ID NO: 7 comprises SEQ ID NO: 24, SEQ ID NO: 25, or SEQ ID NO: 26.

125. (Previously presented) The recognition molecule of claim 88, wherein the equivalent canonical structure variant of SEQ ID NO: 11 comprises SEQ ID NO: 30.

126. (Previously presented) The recognition molecule of claim 96, wherein the equivalent canonical structure variant of SEQ ID NO: 2 comprises SEQ ID NO: 13, SEQ ID NO: 14, SEQ ID NO: 15, or SEQ ID NO: 16.

127. (Previously presented) The recognition molecule of claim 96, wherein the equivalent canonical structure variant of SEQ ID NO: 4 comprises SEQ ID NO: 22 or SEQ ID NO: 23.

128. (Previously presented) The recognition molecule of claim 96, wherein the equivalent canonical structure variant of SEQ ID NO: 8 comprises SEQ ID NO: 27, SEQ ID NO: 28, or SEQ ID NO: 29.

129. (Previously presented) The recognition molecule of claim 96, wherein the equivalent canonical structure variant of SEQ ID NO: 12 comprises SEQ ID NO: 31.

130. (Currently Amended) A recombinant recognition molecule comprising the amino acid sequences set forth in (a)-(f), wherein

(a) comprises SEQ ID NO. 1 or a variant thereof having a single amino acid substitution having analogous physicochemical properties to that of the substituted amino acid;

(b) comprises SEQ ID NO. 3 or a variant thereof having a single amino acid substitution having analogous physicochemical properties to that of the substituted amino acid;

(c) comprises SEQ ID NO. 5;

(d) comprises SEQ ID NO. 7 or a variant thereof having a single amino acid substitution having analogous physicochemical properties to that of the substituted amino acid;

(e) comprises SEQ ID NO. 9; and

(f) comprises SEQ ID NO. 11 or a variant thereof having a single amino acid substitution having analogous physicochemical properties to that of the substituted amino acid;

and wherein the recognition molecule specifically binds to a glycosylated MUC1 tumor epitope.

131. (Currently Amended) A recombinant recognition molecule comprising the amino acid sequences set forth in (a)-(f), wherein

(a) comprises SEQ ID NO. 2 or a variant thereof having a single amino acid substitution having analogous physicochemical properties to that of the replaced amino acid;

(b) comprises SEQ ID NO. 4 or a variant thereof having a single amino acid substitution having analogous physicochemical properties to that of the replaced amino acid;

(c) comprises SEQ ID NO. 6;

(d) comprises SEQ ID NO. 8 or a variant thereof having a single amino acid substitution having analogous physicochemical properties to that of the replaced amino acid;

(e) comprises SEQ ID NO. 10; and

(f) comprises SEQ ID NO. [[11]] 12 or a variant thereof having a single amino acid substitution having analogous physicochemical properties to that of the replaced amino acid;

and wherein the recognition molecule specifically binds to a glycosylated MUC1 tumor epitope.